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- Published:**
— with international search report
— with amended claims
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: RECYCLED WASTE AS AIR ENTRAINMENT ADMIXTURES

(57) Abstract: Use of waste generated as a byproduct of a first manufacturing process as an air entraining admixture (AEA) in a second product. In some instances, the waste materials can be used as an AEA during cement and/or concrete formation, and may also be waste materials produced during shampoo manufacturing. It is contemplated that the use of non-conventional materials as an AEA in conventional applications will often result in products that have performance characteristics similar to conventional AEAs.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/28726

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C04B 18/04

US CL : 106/745, 823

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 106/745, 823

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EAST

SEARCH TERMS: CEMENT, CONCRETE, SHAMPOO, SOAP, WASTE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| Y | US 5,413,633 A (COOK ET AL.) 09 MAY 1995, SEE CLAIM 1. | 1-24 |
| Y | US 4,081,285 A (PENNEL) 28 MARCH 1978, COLUMN 7, LINE 55. | 1-24 |
| Y | LEVINA ET AL. "EFFECT OF COMPLEX INDUSTRIAL WASTE-BASED PLASTICIZERS ON CONCRETE", BETON I ZHELEZOBETON (MOSCOW RUSSIAN FEDERATION), 1989, 11, PAGES 10-11. | 1-24 |

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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| "A" | document defining the general state of the art which is not considered to be of particular relevance | "T" | later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| "E" | earlier document published on or after the international filing date | "X" | document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| "L" | document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "Y" | document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "O" | document referring to an oral disclosure, use, exhibition or other means | "&" | document member of the same patent family |
| "P" | document published prior to the international filing date but later than the priority date claimed | | |

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